

AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated hereafter.

1 1. (Currently Amended) A conveyor comprising:
2 a modular conveyor belt including:
3 a plurality of mat-top chains having a plurality of cavities; and
4 a plurality of first rollers disposed in the cavities of the mat-top
5 chains; and
6 at least one second roller that extends in a direction of travel of the
7 modular conveyor belt and that can operatively couple to the plurality of first rollers, that
8 ~~operatively couples to the first rollers~~ such that the first rollers rotate as the conveyor
9 belt travels along the second roller.

1 2. (Original) The conveyor as defined in claim 1, wherein the at least one
2 second roller is located underneath the conveyor belt and the at least one second roller
3 rotates in a direction transverse to the rotational direction of the first rollers as the
4 conveyor belt travels along the at least one second roller.

1 3. (Original) The conveyor as defined in claim 1, wherein the at least one
2 second roller is positioned to rotate substantially perpendicular to the direction of belt
3 travel.

1 4. (Original) The conveyor as defined in claim 1, wherein the mat-top chains
2 comprise hinge elements that link multiple mat-top chains together to form a conveyor
3 belt.

1 5. (Original) The conveyor as defined in claim 4, wherein the hinge elements
2 comprise interleaved hinge elements having axially aligned holes.

1 6. (Original) The conveyor as defined in claim 1, further comprising a
2 plurality of support members that supports the conveyor belt.

1 7. (Original) The conveyor as defined in claim 1, wherein the at least one
2 second roller is vertically displaceable toward or away from the conveyor belt, wherein
3 when the at least one second roller is displaced toward the conveyor belt and engages the
4 first rollers, the at least one second roller rotates the first rollers as the conveyor belt
5 travels along the at least one second roller.

1 8. (Original) A conveyor as defined in claim 7, wherein the at least one
2 second roller is vertically displaced toward or away from the conveyor belt using an air
3 actuator, hydraulic actuator, ball screw actuator, or solenoid actuator.

1 9. (Original) The conveyor as defined in claim 1, wherein rotation of the at
2 least one second roller causes the first rollers to rotate with reduced slippage.

1 10. (Original) The conveyor as defined in claim 1, wherein the first rollers are
2 aligned in the cavities of the mat-top at an angle that is different from the direction of belt
3 travel enabling the first rollers to convey objects toward the sides or the middle of the
4 conveyor belt.

1 11. (Currently Amended) A conveyor comprising:
2 a modular conveyor belt that travels in a linear motion, including:
3 a plurality of mat-top chains having a plurality of cavities; and
4 a plurality of first rollers disposed in the cavities of the mat-top chains;
5 and
6 at least one second roller that extends in direction of the linear motion, and
7 that operatively couples to the first rollers such that the first rollers rotate and the at least
8 one second roller rotates in a direction transverse to the rotational direction of the first
9 rollers as the conveyor belt travels along the at least one second roller, wherein the
10 rotation of the at least one second roller causes the first rollers to rotate with reduced
11 slippage.

1 12. (Original) The conveyor as defined in claim 11, wherein the at least one
2 second roller is located underneath the conveyor belt.

1 13. (Original) The conveyor as defined in claim 11, wherein the at least one
2 second roller is positioned to rotate substantially perpendicular to the direction of belt
3 travel.

1 14. (Original) The conveyor as defined in claim 11, wherein the mat-top
2 chains comprise hinge elements that link multiple mat-top chains together to form a
3 conveyor belt.

1 15. (Original) The conveyor as defined in claim 14, wherein the hinge
2 elements comprise interleaved hinge elements having axially aligned holes.

1 16. (Original) The conveyor as defined in claim 11, further comprising a
2 plurality of support members that supports the conveyor belt.

1 17. (Original) The conveyor as defined in claim 11, wherein the at least one
2 second roller is vertically displaceable toward or away from the conveyor belt, wherein
3 when the at least one second roller is displaced toward the conveyor belt and engages the
4 first rollers, the at least one second roller rotates the first rollers as the conveyor belt
5 travels along the at least one second roller.

1 18. (Original) A conveyor as defined in claim 17, wherein the at least one
2 second roller is vertically displaced toward or away from the conveyor belt using an air
3 actuator, hydraulic actuator, ball screw actuator, or solenoid actuator.

1 19. (Original) The conveyor as defined in claim 11, wherein the first rollers
2 are aligned in the cavities of the mat-top at an angle that is different from the direction of
3 belt travel enabling the first rollers to convey objects toward the sides or the middle of the
4 conveyor belt.

1 20. (Currently Amended) A method for conveying objects, the method
2 comprising:
3 driving a modular conveyor belt in a direction of belt travel;
4 ~~operatively coupling a rotating~~ a plurality of first rollers disposed in the
5 modular conveyor belt with at least one second roller that has an axis that is parallel to
6 the direction of belt travel, wherein the driving of the modular conveyor belt produces
7 rotary motion in the plurality of first rollers and the at least one second roller as a result of
8 their operative coupling in a manner in which slippage of the first rollers is reduced; and
9 conveying objects on the conveyor belt using the rotating first rollers.

1 21. (Original) The method as defined in claim 20, wherein rotating the first
2 rollers comprises engaging the first rollers with the at least one second roller as the
3 conveyor belt travels along the at least one second roller.

1 22. (Original) The method as defined in claim 20, wherein rotating the first
2 rollers comprises rotating the first rollers by rotating the at least one second roller in a
3 direction substantially transverse to the rotational direction of the first rollers as the
4 conveyor belt travels along the at least one second roller.

1 23. (Original) The method as defined in claim 20, wherein rotating the first
2 rollers comprises selectively rotating the first rollers with the at least one second roller.

1 24. (Original) The method as defined in claim 23, wherein selectively rotating
2 the first rollers comprises vertically displacing the at least one second roller toward the
3 conveyor belt and engaging the first rollers, the at least one second roller rotating the first
4 rollers as the conveyor belt travels along the at least one second roller.

1 25. (Original) The method as defined in claim 20, wherein rotating the first
2 rollers comprises rotating the first rollers at an angle that is different from the direction of
3 the belt travel.

1 26. (Original) The method as defined in claim 20, wherein conveying objects
2 on the conveyor belt comprises conveying objects toward the sides or the middle of the
3 modular conveyor belt.

1 27. (New) The conveyor as defined in claim 1, wherein the linear motion of
2 the modular conveyor belt generates rotary motion in the plurality of first rollers and the
3 at least one second roller.

1 28. (New) The conveyor as defined in claim 1, wherein the at least one
2 second roller is non-driven.

1 29. (New) The conveyor as defined in claim 11, wherein the linear travel of
2 the modular conveyor belt produces rotary motion in the plurality of first rollers and the at
3 least one second roller due to contact between those rollers.

1 30. (New) The conveyor as defined in claim 11, wherein the at least one
2 second roller is non-driven.

1 31. (New) A conveyor comprising:
2 a modular conveyor belt that travels in a linear motion, including:
3 a plurality of mat-top chains having a plurality of cavities, and
4 a plurality of first rollers disposed in the cavities of the mat-top
5 chains and laterally spaced across the width of the modular conveyor belt such that a
6 plurality of rows of rollers are parallel to the linear motion; and
7 at least one second roller, that extends in the direction of the linear motion
8 and that is located under one of the plurality of rows to operatively couple to a row of first
9 rollers such that the first rollers rotate in a direction transverse to the linear motion as the
10 conveyor belt travels along the at least one second roller.

1 32. (New) The conveyor as defined in claim 31, wherein the at least one
2 second roller is vertically displaceable toward or away from the modular conveyor belt,
3 wherein when the at least one second roller is displaced toward the conveyor belt and
4 engages the row of first rollers, the at least one second roller rotates the first rollers as the
5 conveyor belt travels along the at least one second roller.

1 33. (New) The conveyor as defined in claim 31, wherein the first rollers are
2 aligned in the cavities of the mat-top at an angle that is different from the direction of belt
3 travel enabling the first rollers to convey objects toward the sides or the middle of the
4 conveyor belt.